VAN DE WARKER (ELY,)

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AN EXPERIENCE WITH SLOUGHING INTRA-UTERINE FIBROIDS.

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The intra-uterine fibroid is always an aggressive tumor, but at no time is its presence more threatening to life and health than when in the process of sloughing. As there is oftentimes no limit to the amount of blood lost in the hemorrhagic form of even small tumors, so also can there be no limit assigned to the duration or intensity of the blood-poisoning that may result when the tumor is undergoing the process of spontaneous cure called sloughing. There is no alternative but removal wholly or in part, no matter how difficult or little prepared the patient may be to encounter such a treatment.

Case I.—My experience began ten years past, when I was called upon to operate in one of the most difficult cases that I have ever met. Mrs. G., of Parish, N. Y., aged forty-eight years, the mother of several children then at adult age. Her weight was about two hundred and fifty pounds, and she was of rather short stature. She stated that for three years she had been losing an increased quantity of blood at each menstruation, until about six months before consulting me the intervals between the period disappeared and the drain of blood became quite constant. Some time before my visit she had a series of chills followed by fever, which soon became continuous, and which was believed to be malarious. The fears of the patient became excited when she noticed that the discharge was rather sanguinolent than bloody, and that its odor was becoming very offensive. Under the fear that she was

suffering from a cancer she consulted me and submitted to an examination for the first time. I must confess that the examination was anything but satisfactory to myself. It was with the utmost difficulty that I could reach the cervix with my finger, so deep was the mass of fat through which I had to penetrate. I was only able to establish the fact that the cervix was free from disease, and that the uterine cavity contained some mass which was decomposing. I advised that an effort be made for its removal. Accordingly, she came to the city and I made the attempt. No speculum that I had would properly display the vaginal cervix. The vagina was exceedingly capacious, which, added to the enormous buttocks, made this usually simple operation one that taxed all my skill. By means of the sound, which penetrated between five and six inches, I was able to demonstrate the presence of an intra-uterine mass attached to the posterior uterine wall, without any very well-defined pedicle, except from the under portion of the growth. It is needless to detail the efforts I made to enucleate the mass in the uterus, the vaginal portion of which I was only occasionally able to see, but could not touch, although drawn down with all the force possible by volsella, through a vagina the voluminous folds of which were held out of the way by several retractors, while I placed the patient into various positions in the hope that posture would aid me in exposing the parts.

I gave up the attempt to enucleate the mass, and accidentally discovered a very simple way out of the difficulty. In the course of my manipulations I observed that the outer layers of the tumor broke down very readily, so that I believed if I were able to scrape away this layer I could remove all of the offending portions of the tumor. I at once applied my curette and without difficulty removed a large handful of offensive débris with only a very moderate loss of blood. The cavity of the uterus was swabbed out with tincture of iodine, a tampon placed in the vagina, and the operation concluded. The temperature soon became normal, the hemorrhage ceased, and my patient was practically cured. For about six years the woman had a fair state of health, when pelvic symptoms again occurred, and, after many months of sickness, died with symptoms that pointed to a malignant disease of the uterus.

Others may have used the curette to remove the outer sloughing shell of an intra-uterine fibroid, but I have never seen such an employment of the instrument alluded to. It appears to me that in cases presenting any special difficulties in the way of total removal, as in the case of my obese subject, such a method would be both simple and effective. From several specimens of tumors removed intact, I observed that the slough began at the surface, penetrated a uniform depth in the mass, and had a well-defined line of demarcation. It is the periphery that suffers most from the diminished blood-supply, and if the sloughing layer be removed, it may be possible that the lessened circulation in the tumor may be sufficient to maintain the remainder of the mass up to its vital standard of nutrition, and thus afford time for the tumor to become pedunculated and more easy of removal. The curette is used with a fair measure of success in the treatment of bleeding intra-uterine fibroids, and I would suggest its application in the sloughing stage of the growth.

Case II.—Mrs. S., aged forty-six years, one child, eighteen years old, followed by a number of abortions, the last at forty years of age; a patient of Dr. E. C. Skinner, of De Witt, N. Y. I first saw the patient at the invitation of Dr. Skinner at her home in De Witt. Her physician had already detected the presence of an intra-uterine fibroid. She was a large, fleshy woman, very pale and weak, and for the last ten months had done little except keep her bed with the hope of diminishing the loss of blood, which was nearly continuous. The uterus was about five inches long, globular in form, the os externum admitting the index finger about one inch, firm and resisting dilatation by the finger. Nothing was done at this visit further than to confirm Dr. Skinner's diagnosis. She was advised to enter the Central New York Hospital for Women for operation, and meanwhile placed upon tonics and as liberal diet as possible. Dr. Skinner called my attention to one fact which I do not think, within my own experience, is unusual—namely, that ergot, given with a view of diminishing the blood loss, on the contrary, appeared to increase it.

It was some months after my visit that she applied to the hospital. She was very much further reduced in strength and nutrition by that time. Her color was exceedingly anæmic, with a marked yellow tinge, with œdema of extremities. The temperature showed a mean rise of 102.5°, which had been going on for several weeks. The os externum barely admitted the finger-tip, firm and resistant, and just within, the mass could be detected. The discharge was sanguinolent and exceedingly offensive. Rapid dilatation gave, in a few minutes, ample room for manipulation. The pedicle, easily within reach, was quickly severed with flat curved scissors, and the mass, three inches long by two in diameter, removed. The outer layer was reduced to a mass of slough which peeled off, like a shell, from the viable portion of the tumor within. The temperature quickly subsided to the normal. Mrs. S. never regained her general health. The color remained anæmic and sallow, symptoms of chronic nephritis presented, and she died about a year after leaving the hospital with uræmia.

Case III.—Mrs. W., about thirty years old, sterile (?). A patient of Dr. T. C. Walsh, of Syracuse, for whom I operated, and who kindly furnished me the following note: "I saw her first August 28, 1888. Found her flowing excessively, which was initiated at her last menstrual period. The periods had been of long duration and severity for some time. The general health had been declining for about six months. There had been uterine disturbance, such as uterine pain, pain in the back, etc.; also gastric, abdominal, and other reflex phenomena. I found her with a severe degree of fever, which was continuous. On examination a soft, sloughing mass protruded from the cervix."

I operated August 31st. The tumor was extruded entirely from the cavity of the uterine body and was pendulous. The pedicle, about the size of the index finger, was attached near the level of the os internum.

The interest in this case lies in the fact that it was the first pendulous fibroid that I had ever seen in a sloughing condition. In my experience, if the tumor can survive expulsion from the uterine cavity, with its blood-supply—contained within its pedicle attached within the cavity of the cervix—

exempt from the pressure of the uterine cavity proper, the mass will continue viable for an indefinite period.

CASE IV.—Mrs. ——, aged forty, multipara, a slender, delicate woman. On March 1, 1889, she noticed for the first time a mass about the size of the closed hand in the left iliac space slightly movable and not specially sensitive. On March 15th there was a hemorrhage of short duration. With the onset of menstruation at the first of April, menorrhagia set in and continued three weeks. The loss was considerable, attended with the expulsion of clots. For five weeks following, there was an exemption from hemorrhage, when for two days there was a renewal of the hemorrhage, stopping suddenly, followed at irregular intervals by gushes of blood for a day at a time. June 14th, a sudden hemorrhage occurred, so free that a tampon was resorted to. At this date the mass on the left side disappeared. In view of the rapidly succeeding events in the history this disappearance was significant. Directly high temperature supervened of moderate intensity, interrupted on or about the second day by a chill with the resulting temperature of 105°. There was no deviation in the pyrexia of an erratic character from this time to the period when I saw the patient. About June 18th, a marked odor of putrefaction became evident. At several periods after the last date (June 14th), but the dates of which are uncertain, attacks occurred of a most alarming character, which were described to me as heart failure, the pulse at the wrist becoming nearly imperceptible, with loss of consciousness.

On July 3d, I first saw the patient. Her condition appeared critical. The complexion was of a yellowish pallor, expression anxious, and the actions of the patient of the restless, agitated character that betokens an exhaustion of the nerve centres. A very offensive odor filled the room. The temperature was 101° at noon, the time of my visit, while at 6 P. M. of the evening previous it was taken at 104.4°. On examination the cervix was low, pointing upward behind the pubes; the os externum freely patulous with an extensive laceration; the os internum admitted the finger with ease. On exploring further into the uterine cavity a large mass could be felt. The finger could be swept around its lower segment; anteriorly it was free, but posteriorly

a pedicle half an inch broad began at the lower margin of the mass and extended upward beyond the reach of the finger. On combined palpation the uterine body appeared nearly the size of a fœtal head. I did not hesitate to express an opinion to her husband that the intra-uterine mass was a fibroid, which was sloughing; that the general condition was that of septicæmia as a result, that she was in great danger and the only thing that could be done with any hope of saving her life was the prompt removal of the sloughing mass. As the removal of an intra-uterine fibroid is sometimes an operation attended with great difficulty, and as the exhaustion of the patient was extreme, I could only urge it as a life-saving alternative, better than hopeless inaction. Consent was reluctantly given, and on the afternoon of the same day, with my own staff of assistants and in the presence of Drs. Dunlap, Aberdein, and Edwards, I operated. The pedicle reached from the inferior segment of the mass to the uterine fundus on the posterior wall, and was composed of such resistance fibres that the serrated spoon which I used to sever t, was unable to cope with it. The mass itself was extremelyi friable, so that I was unable to retain a grasp upon it with my forceps without tearing out. I accepted the hint, and taking a forceps that had a broad serrated surface, I began to remove the tumor in morsels, and in a very short time had it lying upon the table in fragments to the extent of about a pound. The ragged remnants of the pedicle I trimmed down with a scissors curved upon the flat. The cavity was cleaned of clots, wiped out with Churchill's tincture, and packed with iodoform gauze. But a very small quantity of blood was lost, and the patient was put to bed not any the worse notwithstanding her extreme exhaustion.

Early in the evening I was summoned in haste, as the patient had had another seizure of heart-failure. As she lived in another part of the city the attack was over when I reached her house, and I only found her in a state of nearly fatal exhaustion, drenched in perspiration, with a temperature of 104.6°. I was not sure of the pulse, as it was irregular in tension and not to be counted with certainty. Atropia $\frac{1}{60}$ gr. hypodermatically and one drop of 1 per cent. solution of nitroglycerin were prescribed, with nutritive and stimulant enema.

July 4th: The uterine dressing was removed and cavity washed out with corrosive sublimate solution of 1 : 3000. The condition of the patient was much improved; the pulse from 76 to 80 during the day, but of very feeble tension, and the range of temperature from 100° to 101.5°. On the 5th the temperature gave the extremes of 99° to 101.5°, with an improvement in the character of the pulse. At 6 P.M. another attack of heart-failure, which I again arrived too late to witness; but the effects were similar to that of the 3d. On the 6th and 7th there was evidence of slow improvement. The treatment continued and the uterus washed out twice daily, as before. On the 10th there were hopeful evidences of normal temperature, although on many occasions since the operation a normal standard would be reached, but only to rebound to 100° or 101°. July 11th: As nearly all the odor had disappeared from the uterine discharge, disinfectant irrigation was made but once a day. At 10 P.M. the nurse's record showed another attack of heart-failure, and again another at 8.30 A.M. the next day, from which date a normal temperature was observed. On the evening of the 13th, a moment after I had washed out the uterus, and in the act of turning away from the bed, I heard the nurse exclaim: "Here is another one!" while the patient made a feeble, gasping sound. To my astonishment, I saw the patient in a violent tonic spasm The face was violently distorted, all the trunkal respiratory muscles standing out in rigid fixation, slight opisthotonos, and contraction of the flexors of the upper extremities. Respiration was suspended for such a length of time that I became alarmed lest she would never breathe again, but when the nurse assured me that it was "not so bad as some," I regained my composure and watched with interest the interesting phenomenon. The pulse was nearly, and soon became quite, indistinct, which condition had repeatedly excited such fear that the patient was actually dying that the general muscular spasm was overlooked entirely by her nurse. The condition of the pulse, I became satisfied, was more apparent than real, although greatly reduced, without doubt, by the tonic spasm of the muscles at the wrist. The attack did not exceed one minute in duration, and left her in a state of alarming exhaustion and mental distress. There was a total loss

of consciousness during the attack, with impaired sense of identity and incoherency for some time after.

As there was a spasm with rigidity, instead of clonicity, the attack was rather a tetanus than epilepsy; and since it gave way to a free use of bromide with asafœtida, its hysterical character appeared to me clearly evident. I would therefore call it hystero-tetanus. This was the last attack, and further progress to health, although slow, was without event.

To me the hystero-tetanus of this case was very instructive, and explains some of the cases of so-called tetanus that we occasionally see reported as following parturition, laparotomy, and pelvic operations. So far as I am able to call to mind, many of the cases of this character which I have seen reported were associated with blood-poisoning in more or less active form. This accords with my own observation, as I had seen the same tonic convulsion in cases of puerperal septicæmia, but had never before met with it in a case similar to this.

The mechanism by which this tumor lost its supply of nutrition and became gangrenous is interesting. In March she observed the tumor in the left portion of the pelvis. It did not change its position, but was to a moderate limit movable. On June 14th a hemorrhage occurred in such quantity that a tampon was necessary; and directly after, the tumor had disappeared. What had taken place was simply this: the tumor had changed its nidus. When felt externally in the pelvic region it was intra-mural. By the action of the uterine muscles, the mass was crowded more and more toward the intra-uterine surface. This gradual movement of small intra-mural neoplasms in the direction of the cavity is quite well established as the method of formation of the intra-uterine fibroid with the fibres of its pedicle deeply rooted in the musculature of the organ. In our case the inner capsule became so thin that in April and May it was becoming ruptured with considerable hemorrhage; but on June 14th the entire inner covering gave way, with severe bleeding, and the tumor was

extruded from its bed, to disappear to external palpation, without return.

Now, I found the pedicle of the tumor very broad and firm; yet, notwithstanding its size and consistency, insufficient in vascularity to preserve the life of the mass. This seeming inconsistency is very easily explained. The uterus in contracting down upon the space left by the expelled mass diminished the amount of blood, not alone to the tumor, but to the whole parenchyma of the organ, so that the former was strangulated. Thus the pedicle, strong and broad as it was, contained no bloodvessels, as was proven by the fact that, after removing the tumor, the ragged pedicle was pared down with scissors without hemorrhage. Although we are, I believe, quite generally of the belief that this is the mechanism and course of events in the formation of the pedicular intra-uterine fibroid, yet it is rare that we are able to trace this, step by step, so closely as in this instance.

Case V.—Mrs. C., of Fayetteville, N. Y., a patient of Dr. S T. De la Mater, now of Palmyra, N. Y. This case is interesting as an instance of long-sustained error in diagnosis. For fourteen years she was believed to be suffering from cancer of the uterus, and that nothing could be done for her. She was fifty-one years old, and the mother of several children. At the age of thirty-seven years, about, menstruation began to exhibit a considerable error in excess, and in the course of a year became nearly continuous, with brief intervals each month of a copious pinkish discharge. Many physicians were consulted, but with strange unaminity, they all concurred in the theory of cancer, and thus the miserable years passed. In 1881 Dr. De la Mater was called, and by examination demonstrated a fibroid tumor presenting at the os internum. Dr. D. called me in consultation concerning a new condition that had complicated the case for about a month previous to my visit. Chills recurring at irregular intervals, with moderate consecutive fever, were rapidly diminishing the little remaining strength of the patient. I found her bed-fast, with a ghastly pallor. The mucous membranes of the mouth and vagina were blanched to a pearly whiteness; in fact, the

long-continued loss of vital fluid had reached the point that so far as the surfaces there was no evidence of blood in her. She had long since ceased to bleed when quiet in bed, other than a pinkish watery discharge. On examination, the os externum was dilated about half an inch in diameter, and directly within was the presenting tumor. The temperature was 100.5°; the pulse at 90, of poor quality. By combined touch the uterine body appeared about five inches long and nearly spherical. The finger could be passed through the thin ring of the external os half way to the fundus without encountering the connections of the mass. It occurred to me that the tumor could be very easily removed and with safety, notwithstanding the exhausted condition of the patient. At any rate, it was better than doing nothing. The following day I returned to Fayetteville and made the attempt. Enucleation was done by the finger alone. In sweeping the finger around the tumor the outer layers, to the depth of a quarter of an inch or so, peeled off, under which lay the fibrous structure of the growth. A short delay occurred in delivering the tumor through the os externum. The operation lasted about twenty minutes. The amount of blood lost did not exceed four ounces. The shock was extreme: small as the blood loss was, it was too large for the patient. She never rallied, and died in about an hour.

The lesson taught by the last two cases of the series is one of great practical importance. If the factor of safety is to be regarded in favor of the patient, there are certain conditions which may not be overlooked. Of course, due weight must be given to the difference in moral tone and reserve vitality which enables a patient to withstand shock, an exceedingly difficult quality to estimate. Any operation that we may undertake in a desperate case of sloughing intra-uterine tumor is simply a life-saving expedient in which one must prepare those interested in the patient for a possible unfavorable outcome. I would say that the condition foreshadowing this result is long-continued blood-loss, to such an extent that we have blanched mucous membranes. Life is possible for a long but indefinite period in this condition; but, as indicating a favorable out-

come for an operation, I believe that the limits of the factor of safety are indicated by this appearance. It defines another quality of vital exhaustion than that due to septicæmia. In the first case we had a very dangerous degree of fever due to this cause, with vitality reduced to a very limited margin of reserve, yet the patient bore a severe operation without apparent encroachment on this narrow limit. Contrast this state of exhaustion due to excessive fever with but small blood-loss with that caused by a very moderate degree of fever with excessive loss of blood, as in the next case. An operation that ought to have produced but little, if any, shock, caused it to the last degree. A fatal hemorrhage is purely a comparative term. It depends upon the quantity of blood a subject can lose in a given time, plus the power to reproduce the amount lost within a period that will comply with the vital demands of the tissue. In the last case the tissues were exsanguined, and the blood-making function reduced to a minimum by the arrest of assimilation caused by the fever. I know of no indication that so clearly points out this limit of the blood-starved tissues as the blanched mucous membranes, beyond which we cannot go with a positive expectation of saving life in operations of this character. I do not say that we should not operate in the presence of this indication, but that we should do so with a full understanding on the part of all concerned that the aid of the surgeon may have been solicited too late.

A uniform feature of this group of cases invites a brief comment. It will be observed that all these belonged to the hemorrhagic variety of intra-uterine growth. Hemorrhage as a symptom does not designate a variety further than to indicate a tumor more or less intra-uterine, and either sessile or pedicular—usually the latter—in its attachment to the wall of the organ. A tumor attached by a pedicle is at any time exposed to the danger of strangulation to an extent that viability is no longer possible; but I believe that this accident implies that the mass is free within the uterine cavity. To

the surgeon this is a matter of great practical importance, as it is a clear indication that the fibroid is attached by a pedicle, and is otherwise free, and thus easily extirpated—an imperative operation when the mass is in a sloughing condition.

The following summary is based upon the facts connected with this group:

First. The use of the curette to remove the sloughing periphery of an intra-uterine fibroid when non-removable from any complication, as in Case I. from excessive obesity; or in cases of extreme exhaustion that renders extirpation extra hazardous

Second. That the process of sloughing begins at the outer layers of the mass, and extends, layer by layer, into its deeper structure.

Third. Rapid dilatation of the cervical canal affords ample space through the parts for the manipulations of removal; and that sponge-tents and other slow methods of dilatation are unnecessary (Case II.).

Fourth. That fibroids, formerly intra-uterine, when extruded from the uterus and pendulous in the cavity of the cervix with its pedicle therein attached, are rarely found in a sloughing condition; and that Case III. is an exception to this rule.

Fifth. That a form of hystero-tetanus, without trismus, may follow either certain forms of blood-poisoning or uterine lesion (Case IV.). Within the experience of the author, this condition, only met with in the puerperal state, was attended with septicæmia.

Sixth. That blanched mucous membranes in excessive and long-continued blood-loss due to intra-uterine fibroids afford a certain indication that the limits of safety have been reached in operative treatment of sloughing fibroids, and that a doubtful prognosis must be given (Case V.).

Seventh. That septicæmia, made evident by long-continued pyrexia, is necessarily a fatal condition when due to a sloughing fibroid, unless relieved by the removal of the offending mass;

that removal wholly or in part is a life-saving operation, and is imperative; that the operation is comparatively easy and attended with but little danger, except in cases of blanched mucous membranes.